

ABSTRACT OF THE DISCLOSURE

A reduced cost voltage regulation circuit for switched mode power supplies. In one embodiment, a voltage regulation circuit includes a current sense circuit having a current sense terminal to conduct a current to be sensed by the 5 current sense circuit. A voltage difference between the current sense terminal and a voltage reference terminal is substantially fixed when the current to be sensed by the current sense circuit is substantially equal to a first current sense threshold. The voltage regulation circuit also includes a first impedance coupled between the current sense terminal and the voltage reference terminal to provide a second 10 current sense threshold. The second current sense threshold is equal to a sum of the first current sense threshold and a current to flow through the first impedance. The voltage regulation circuit further includes a second impedance coupled between the current sense terminal and an input terminal. The input terminal has a voltage threshold relative to the voltage reference terminal that is different from 15 a voltage at the current sense terminal by an amount that is a product of the second impedance and the second current threshold.